line 11, after "**VSUM**" delete "may";
line 12, before "set" delete "be" and insert --is--;
after "set" delete "equal to zero";
line 16, after "to" insert --the--;
line 18, before "than" delete "greater" and insert --less--; and
line 23, before "than" delete "less" and insert --greater--.

Page 16, line 10, after "and" delete "J^2" and insert --J_2---.

IN THE CLAIMS:

Please delete claims 2-3 and 15-16 without prejudice.

Please amend the claims as follows:

1. (amended) A direct current sum bandgap voltage comparator comprising:

a summing node;

a plurality of current sources connected to the summing node, each current source supplying a current to the summing node and being connected to a power supply voltage[, wherein the current at the summing node is equal to zero when the power supply voltage is equal to a preselected voltage],

wherein the currents sources supply currents according to a bandgap equation:

$$K_1(V_{CC}-V_T)+K_1V_T=K_2V_{BE}+K_3(kT/q)$$

where V_{CC} is the power supply voltage, V_T is the threshold voltage, V_{BE} is a base emitter voltage, and kT/q is equal to a thermal voltage where k is Boltzman's constant, T is the temperature in kelvin, q is the electronic charge, and K_1, K_2, and K_3 are constants; and

an indicator circuit having an input connected to the

summing node and generating a logical signal at an output, responsive to voltage changes in the summing node.

4. (amended) [The direct current sum bandgap voltage comparator of claim 3,] A direct current sum bandgap voltage comparator comprising:

a summing node;

a plurality of current sources connected to the summing node, each current source supplying a current to the summing node and being connected to a power supply voltage; and

an indicator circuit having an input connected to the summing node and generating a logical signal at an output, responsive to voltage changes in the summing node, wherein the currents sources supply currents according to a bandgap equation:

$$K_1(V_{CC}-V_T)+K_1V_T=K_2V_{BE}+K_3(kT/q)$$

where $\mathbf{V_{CC}}$ is the power supply voltage, V_T is the threshold voltage, V_{BE} is a base emitter voltage, and kT/q is equal to a thermal voltage where k is Boltzman's constant, T is the temperature in kelvin, q is the electronic charge, and K_1, K_2, and K_3 are constants and wherein the plurality of current [mirrors] sources comprises four current mirrors.

5. (amended) The direct current sum bandgap voltage comparator of claim 4, wherein the first current mirror includes a plurality of transistors and supplies a current to the summing node defined by $K_1(\mathbf{V_{CC}}-V_T)$ [, where $\mathbf{V_{CC}}$ is the power supply voltage and V_T is a threshold voltage in the first current mirror].

6. (amended) The direct current sum bandgap voltage comparator of claim 5, wherein the second current mirror includes a plurality of transistors and supplies a current to

the summing node defined by K_1V_T[, where V_T is a threshold voltage in the second current mirror].

7. (amended) The direct current sum bandgap voltage comparator of claim 5, wherein the third current mirror includes a plurality of transistors and supplies a current to the summing node defined by K_2V_{BE}[, where V_{BE} is a base-emitter voltage defined by a selected transistor in the third current mirror].

9. (amended) The direct current sum bandgap voltage comparator of claim 8 further comprising a clamping circuit connected to the summing node, wherein a voltage swing <u>for the summing node</u>, responsive to changes in current supplied by the current mirrors, may be <u>set between</u> selected <u>voltages</u> [for the summing node].

10. (amended) The direct current sum bandgap voltage comparator of claim 8 further comprising a cascode stage [interposed] <u>located</u> between the summing node and the current mirrors.

14. (amended) A zero power circuit comprising:

a first circuit;

a direct current sum bandgap voltage comparator comprising:

a summing node;

a plurality of current sources connected to the summing node, each current source supplying a current to the summing node and being connected to a power supply voltage[, wherein the current at the summing node is equal to zero when the power supply voltage is equal to a preselected voltage], <u>wherein the current sources supply according to a bandgap equation:</u>

$$K_1(V_{CC}-V_T)+K_1V_T=K_2V_{BE}+K_3(kT/q)$$

where V_{CC} is the power supply voltage, V_T is the threshold voltage, V_{BE} is a base emitter voltage, and kT/q is equal to the thermal voltage, where k is Boltzman's constant, T is the temperature in kelvin, q is the electronic charge, and K_1, K_2, and K_3, are constants.

; and

an indicator circuit having an input connected to the summing node and generating a logical signal at an output, responsive to changes in the summing node; and

a switching circuit for providing power to the first circuit from a primary power supply and a secondary power supply, the switching circuit being connected to the output of the indicator circuit, wherein power from the primary power supply is supplied to the first circuit if the logical signal indicates that the power supply voltage is equal to or greater than the preselected voltage and power from the secondary power supply is supplied to the first circuit if the power supply voltage is less than the preselected voltage.

17. (amended) [The zero power circuit of claim 16,] A zero power circuit comprising:

a first circuit;

a direct current sum bandgap voltage comparator comprising:

a summing node;

a plurality of current sources connected to the summing node, each current source supplying a current to the summing node and being connected to a power supply voltage-; and

an indicator circuit having an input connected to the summing node and generating a logical signal at an output, responsive to changes in the summing node; and

a switching circuit for providing power to the first circuit from a primary power supply and a secondary power supply, the switching circuit being connected to the output of the indicator circuit, wherein power from the primary power supply is supplied to the first circuit if the logical signal indicates that the power supply voltage is equal to or greater than the preselected voltage and power from the secondary power supply is supplied to the first circuit if the power supply voltage is less than the preselected voltage, wherein the current sources supply according to a bandgap equation:

$$K_1(V_{CC}-V_T)+K_1V_T=K_2V_{BE}+K_3(kT/q)$$

where V_{CC} is the power supply voltage, V_T is the threshold voltage, V_{BE} is a base emitter voltage, and kT/q is equal to the thermal voltage, where k is Boltzman's constant, T is the temperature in kelvin, q is the electronic charge, and K_1, K_2, and K_3, are constants and wherein the plurality of current sources comprises four current mirrors.

18. (amended) The zero power circuit of claim [16] 17, wherein the secondary power supply is a battery.

19. (amended) The zero power circuit of claim 17, wherein the first current mirror includes a plurality of transistors and supplies a current to the summing node defined by $K_1(V_{CC}-V_T)$ [, where V_{CC} is the power supply voltage and V_T is a threshold voltage in the first current mirror].

20. (amended) The zero power circuit of claim 17, wherein the second current mirror includes a plurality of transistors and supplies a current to the summing node defined by K_1V_T[, where V_T is a threshold voltage in the second current mirror].

~~21~~ 18. (amended) The zero power circuit of claim ~~20~~ 17, wherein the third current mirror includes a plurality of transistors and supplies a current to the summing node defined by K_2V_{BE}[, where V_{BE} is a base-emitter voltage defined by a selected transistor in the third current mirror].

~~23~~ 20. (amended) The zero power circuit of claim ~~22~~ 19 further comprising a clamping circuit connected to the summing node, wherein a voltage swing for the summing node, responsive to changes in current supplied by the current mirrors, may be set between selected voltages [for the summing node].

~~24~~ 21. (amended) The zero power circuit of claim ~~22~~ 19 further comprising a cascode stage [interposed] located between the summing node and the current mirrors.

Please add the following new claims:

--27. A direct current sum bandgap voltage comparator comprising:

a summing node;

a plurality of current sources connected to the summing node and directly connected to a power supply voltage, each current source supplying a current to the summing node, wherein the summing node voltage level is responsive to the currents supplied; and

an indicator circuit having an input connected to the summing node, wherein the indicator circuit is responsive to changes in the summing node voltage level and generates at an output a logical signal at one state when the summing node voltage level is greater than a predetermined value and generates the logical signal at the output at another state when the summing node voltage level is less than the predetermined value, the predetermined value corresponding to